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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/831,331	01/24/2002	Alan Coull	11033-064001	3208
	7590	10/23/2003	EXAMINER	
Fish & Richardson 225 Franklin Street Boston, MA 02110-2804			HINZE, LEO T	
			ART UNIT	PAPER NUMBER
			2854	

DATE MAILED: 10/23/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/831,331

Applicant(s)

COULL, ALAN

Examiner

Leo T. Hinze

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 July 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5,7-13,16,17 and 19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5,7-13,16,17 and 19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☒ The proposed drawing correction filed on 21 July 2003 is: a) ☒ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 12.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

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DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-5, 7, 11, 16, 17, and 19 are rejected under 35 U.S.C. 102(e) as being anticipated by Kano, US 5,784,171.

Regarding claim 1, Kano teaches a method of printing information on each article (14) of a set of articles arranged in generally parallel lanes (Fig. 5), at a printing station, the method comprising: providing the printing station including a gantry (15), a carriage mounted to the gantry (Fig. 5), and a printing apparatus having a housing (8) mounted on the carriage, and a print head (8), the printing apparatus being movable transversely across the lanes; continuously moving the printing apparatus (8) transversely (col. 6, lines 37-38) across the lanes to bring the printing apparatus into registry with each article of the set in turn; at each registry position, whilst continuing, to move the printing apparatus, moving the print head of the apparatus relative to the housing and relative to the respective article to a printing position ("moving the print head 8 in the

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vertical direction", col. 6, lines 35-37) in which the print head is capable of printing information on the article; continuing to move the printing apparatus transversely relative to the article whilst effecting printing with the print head; and when the information is printed, whilst continuing to move the printing apparatus transversely, moving the print head relative to the housing out of the printing position (col. 6, lines 34-45).

Regarding claim 2, Kano teaches all that is claimed in the above rejection of claim 1. Additionally, Kano teaches wherein the method includes continuously moving the carriage transversely (col. 6, lines 35-37) across the lanes, relative to a base structure relative to which each of the articles (14) of the set is held stationary during printing.

Regarding claim 3, Kano teaches all that is claimed in the above rejection of claim 1. Additionally, Kano teaches wherein the carriage is moved transversely of the lanes at a generally constant speed.

Regarding claim 4, Kano teaches all that is claimed in the above rejection of claim 1. Additionally, Kano teaches wherein all of the articles (14) of the set (9) positioned at the printing station simultaneously whilst the printing apparatus is moved transversely across all the lanes (col. 6, lines 35-37).

Regarding claim 5, Kano teaches all that is claimed in the above rejection of claim 1. Additionally, Kano teaches wherein the articles are conveyed severally (transport unit 10, container — vessel 9) in their respective lanes, to the printing station, and are arranged to be present at the printing station so that the printing apparatus may be moved into registry with the articles and printing performed, whilst the printing apparatus is continuously moved.

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Regarding claim 7, Kano teaches all that is claimed in the above rejection of claim 1. Additionally, Kano teaches wherein the print head is of the kind having a plurality of printing elements ("nozzles provided in the head unit", 16) which are selectively actuated during printing by a control means (62) to effect printing of desired information on each of the articles.

Regarding claim 11, Kano teaches all that is claimed in the above rejection of claim 1. Additionally, Kano teaches conveying the articles of the set in their parallel lanes to the printing station, arresting movement of the set of articles at the printing station while the information is printed on each of the articles of the set (col. 8, lines 63-64).

Regarding claim 16, Kano teaches a printing station comprising: a carriage (Fig. 5), a printing apparatus (8) mounted on the carriage, the carriage being moveable to move the printing apparatus transversely of a plurality of lanes whilst the printing apparatus effects printing on each of a plurality of articles (14) at the printing station, each of the articles being located in one of the lanes, the carriage being moveable substantially continuously across the lanes whilst the printing apparatus prints the information on each of the articles of the set in turn without or substantially without stopping (col. 6, lines 34-45); wherein the printing apparatus includes a housing mounted on the carriage, and a print head capable of being moved relative to the housing to and from a printing position (col. 6, lines 35-37).

Regarding claim 17, Kano teaches all that is claimed in the above rejection of claim 16. — Additionally, Kano teaches wherein the carriage is mounted on a gantry (15) which extends over the lanes and the printing apparatus is moved the lanes on the carriage.

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Regarding claim 19, Kano teaches all that is claimed in the above rejection of claim 16. Additionally, Kano teaches wherein movement of the carriage is controlled by a controller (62) which co-ordinates printing with carriage movement.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1, 8-10, 12, and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Look, US 5,847,743 in view of Kano, US 5,784,171.

Look teaches:

- a method of printing information on an article (46) at a printing station, the method comprising: providing the printing station including a gantry (70, 71), a carriage (61) mounted to the gantry, and a printing apparatus (50) having a housing (52) mounted on the carriage, and a print head (44), the printing apparatus being movable transversely across the lanes; continuously moving the printing apparatus (50) transversely to the article to bring the printing apparatus into registry with the article whilst continuing to move the printing apparatus; moving the print head (44) of the apparatus relative to the housing and relative to the respective article to a printing position (col. 7, lines 9-21) in which the print

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head is capable of printing information on the article; continuing to move the printing apparatus transversely relative to the article whilst effecting printing with the print head; and when the information is printed, whilst continuing to move the printing apparatus transversely, moving the print head relative to the housing out of the printing position (col. 7, lines 9-21) (claim 1);

- wherein the printing apparatus is a thermal printer (50) in which there are printing elements (44; "additional printer heads", col. 8, lines 20-21) arranged in a generally linear array along the print head with the array extending generally transversely to the direction of movement of the printing apparatus across the lanes (Fig. 3), the method including selectively energizing the printing elements (col. 7, line 11) during printing to remove pixels of marking medium from a carrier (66) positioned between the printing elements and the article (claim 8);

- wherein the method includes moving the carrier relative to the print head as the printing apparatus moves transversely of the lanes of articles during printing, so as that fresh carrier is continually be positioned between the print head and the article on which information is being printed (col. 5, lines 5-18) (claim 9);

- wherein the printing apparatus includes a housing (52) within which there is provided a storage spool (62) for unused carrier, a take-up spool (64) for used carrier, a first motive means ("powered ribbon take-up reel" 64) to move at least the take-up spool to take up used carrier, and a second motive means (58) to move the print head to and from the printing position (claim 10);

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- a method of printing information on a article (46), at a printing station, the method comprising: continuously moving, a printing apparatus (50) relative to the article to bring the printing apparatus into registry with the article, the printing apparatus including a print head (44), and a carrier (66) for marking medium which is applied to the articles during printing; at each registry position, whilst continuing to move the printing apparatus, effecting printing with the print head; and when the information is printed, continuing to move the printing apparatus to the next registry position (e.g. col. 7, lines 9-21) (claim 12);
- wherein the method is applied to printing apparatus having a thermal print head (50) having printing elements (44; "additional printer heads", col. 8, lines 20-21) which are selectively energized (e.g. col. 7, line 11) during printing to melt and remove pixels of marking medium from the carrier (66) and deposit the pixels of ink on to the articles (claim 13).

Look does not teach:

- a method of printing information on each article of a set of articles arranged in generally parallel lanes, the method including continuously moving a printing apparatus relative to the lanes to bring the printing apparatus into registry with each article of the set in turn (claim 1);
- a method of printing information on each article of a set of articles arranged in generally parallel lanes, the method including continuously moving, a printing apparatus relative to the lanes to bring the printing apparatus into registry with each article of the set in turn (claim 12).

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Kano teaches:

- a method of printing information on each article (14) of a set of articles arranged in generally parallel lanes (e.g. Fig. 5), the method including continuously moving a printing apparatus relative to the lanes to bring the printing apparatus into registry with each article of the set in turn (claim 1);
- a method of printing information on each article (14) of a set of articles arranged in generally parallel lanes (e.g. Fig. 5), the method including continuously moving, a printing apparatus relative to the lanes to bring the printing apparatus into registry with each article of the set in turn (claim 12);
- that printing on a plurality of objects simultaneously significantly improves productivity (col. 2, lines 51-54).

Regarding claims 1 and 12, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Look to print on a set of articles arranged in generally parallel lines, because Kano teaches that printing on multiple objects simultaneously is advantageous for significantly improving productivity.

Regarding claims 8-10 and 13, the combination of Look and Kano teaches all that is claimed as discussed above.

Response to Arguments

5. Applicant's arguments filed 21 July, 2003 have been fully considered but they are not persuasive.

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6. In response to applicant's argument on page 8 that there is no suggestion to combine the references of Look and Kano, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, Kano specifically teaches that printing simultaneously on a plurality of objects can improve productivity. The examiner is not relying on any teaching that Look suggests a deficiency in productivity, nor is any such teaching necessary for one having ordinary skill to combine Look and Kano using the motivation taught by Kano.

7. In response to applicant's argument on page 9 that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

Conclusion

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

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A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Leo T. Hinze whose telephone number is (703) 305-3339. The examiner can normally be reached on M-F 8:00-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew Hirshfeld can be reached on (703) 305-6619. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-0952.

Leo T. Hinze
Patent Examiner
AU 2854
17 October, 2003



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